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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,437	01/09/2002	Susumu Yamaguchi	02860.0701	5276

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EXAMINER	
AGGARWAL, YOGESH K	
ART UNIT	**PAPER NUMBER**
2622	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/040,437	YAMAGUCHI ET AL.	
	Examiner	Art Unit	
	Yogesh K. Aggarwal	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments with respect to claims 14-38 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 14-17, 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (US Patent # 6,122,009) in view of Takachi (US Patent # 20030137595).

[Claim 14]

Ueda teaches an image pickup device (figures 2-7 and 10) provided on a base board (figure 6, element 1) comprising an image pickup element (figures 4 and 5, holder 2) provided on the base board (1) and including a photoelectrically converting section (figure 5, element 12) in which pixels are arranged (col. 7 lines 14-18, See figure 18, element 211 pixels). Ueda teaches in figure 5, a peripheral surface formed around the photoelectrically converting section 12 and leg portion 11 and a side surface crossing the peripheral surface is being read as the area surrounding the leg portion 11.

Ueda further teaches an optical member (figure 6, lens portion 10) including a lens section (4) to form an image of an object onto the photoelectrically converting section of the image pickup element, a leg section (11) to support the lens section (figure 8 clearly shows a leg portion 11 supporting the lens portion 4) and a contact surface shown as 11A to be brought in

contact with the image pickup element (col. 8 lines 4-23, See figures 8 and 10). Ueda also teaches a holder (2a) to hold the lens frame (4), wherein the lens section does not contact the side surface of the image pickup element (Figure 10 in Ueda shows that the leg portion 11 is not in direct contact the side surface of the image pick up element 12). It would be inherent that a position between the lens section 4 and the photoelectrical device 12 in the optical axis direction will be determined by bringing the contact surface of the leg portion 11 in contact with the peripheral surface. Ueda discloses protrusions 232 formed on the substrate 1 that restrict the mounting position of the image forming lens 4 in the perpendicular direction of the optical axis (col. 28 lines 3-9, figure 55).

Ueda fails to teach wherein the leg section does not extend beyond a top surface of the image pick up element and the lens frame is in direct contact with the base board. However Takachi teaches a leg section under the lens section under the lens sections 10 and 13 (figure 3) that does not extend beyond a top surface of the image pick up element (4) and a barrel 6 that holds the optical mounting member 6 that hold the lens and is mounted on the printed circuit board 1 (Paragraph 5).

Therefore taking the combined teachings of Ueda and Takachi, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have a leg section that does not extend beyond a top surface of the image pick up element and the lens frame being in direct contact with the base board in order to have a compact device due to the smaller leg structure of the lens.

[Claim 15]

Ueda teaches a connection wires 5 and 13A to connect the image pickup element 2 to the substrate 1 (figure 6) and is formed on the peripheral surface formed around the photoelectrically converting section 12 and leg portion 11 and the contact surface 11A is brought in contact with the peripheral surface between the terminal 13A and the photoelectrically converting section 12 (col. 7 lines 44-54, figures 5 and 6).

[Claim 16]

Figure 5 disclose the CCD bare chip 12 formed in the center of the image pickup element 2.

[Claim 17]

Figure 6 disclose the image processing circuits 13 and 14 provided in an inner portion of the image pickup element 2 and inside of the peripheral surface formed around the photoelectrically converting section 12 and leg portion 11 (col. 7 lines 27-32).

[Claim 21]

Figures 35a-e discloses that the optical member 10 is inserted into the lens frame from the object side.

[Claim 22]

Ueda teaches a first diaphragm comprising a hole 3 that functions as a fixed iris of the lens section 4 (col. 7 lines 22-26, figure 6) which reads on a diaphragm regulating an F-number of the lens section and a second diaphragm comprising a housing of the holder 2 is a package 2A located at the object side positioned from the first diaphragm and to regulate a peripheral light flux (col. 7 lines 20-22).

[Claim 23]

Ueda teaches a lens section 102 comprising a first diaphragm (the convex lens shown in figure 1 on the object side) to regulate the F-number of the lens section and is a positive single lens having a surface with a curvature stronger at an image side (col. 1 lines 25-32).

[Claims 24 and 25]

Ueda teaches two lenses a convex (positive) and concave (negative) that forms the lens section (figure 1).

[Claim 26]

Ueda teaches the lens section 102 has a lens 104 focus lens (the convex lens shown in figure 1 on the image side) located closest to the image side is a positive lens and a first diaphragm (the convex lens 103 shown in figure 1 on the object side) that functions as an iris adjusting mechanism of the lens section which reads on a diaphragm regulating an F-number of the lens section arranged at the object side positioned from the lens located closest to the image side (col. 1 lines 25-32).

[Claim 27]

Ueda teaches that the position of each of the at least two lenses as shown in figure 1 (convex and concave) in a direction perpendicular to the optical axis is set by the lens frame shown (broadly read as engaging surfaces) of the at least two lenses parallel to the optical axis in the lens section.

4. Claims 18-20, 28, 30-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (US Patent # 6,122,009), Takachi (US Patent # 20030137595) and further in view of Toyoda et al. (US Patent # 2001/0012073).

[Claim 18]

Ueda in view of Takachi teach the recited limitations of claim 14 but fails to teach "an elastic member to press the optical member toward the image pickup element with an elastic force in an optical axis direction". However Toyoda et al. teaches an elastic member 110 (figure 8) for absorbing the play of the holder (Paragraph 0003). It would be inherent that the elastic member 110 would press the optical member toward the image pickup element with an elastic force in an optical axis direction.

Therefore taking the combined teachings of Ueda, Takachi and Toyoda, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have an elastic member taught by Toyoda in between the holder and optical member of Ueda in order to absorb the play of the holder.

[Claims 6 and 19]

Toyoda teaches a cover member 105 attached to the lens frame 101 at the object side positioned from the lens section and to press the lens section, wherein the cover member includes a part 102 capable of transmitting light (Paragraphs 0003 and 0004, figure 8).

[Claims 7 and 20]

Toyoda teaches an infrared ray cut filter 103 (Paragraph 3, figure 8).

[Claims 28 and 37]

Ueda teaches an image pickup device (figures 2-7 and 10) comprising on a base board (figure 6, element 1) comprising an image pickup element (figures 4 and 5, holder 2) provided on the base board (1) and including a photoelectrically converting section (figure 5, element 12); Ueda further teaches an optical member (figure 6, lens portion 10) including a lens section (4) to form an image of an object onto the photoelectrically converting section of the image pickup element,

a leg section (11) to support the lens section (figure 8 clearly shows a leg portion 11 supporting the lens portion 4). Ueda also teaches a holder (2a) to hold the lens frame (4).

Ueda further teaches an optical member (figure 6, lens portion 10) including a lens section (4) to form an image of an object onto the photoelectrically converting section of the image pickup element, a leg section (11) to support the lens section (figure 8 clearly shows a leg portion 11 supporting the lens portion 4) and a contact surface shown as 11A to be brought in contact with the image pickup element (col. 8 lines 4-23, See figures 8 and 10). Ueda also teaches a holder (2a) to hold the lens frame (4), wherein the lens section does not contact the side surface of the image pickup element (Figure 10 in Ueda shows the leg portion 11 not in direct contact the side surface of the image pick up element 12). It would be inherent that a position between the lens section 4 and the photoelectrical device 12 in the optical axis direction will be determined by bringing the contact surface of the leg portion 11 in contact with the peripheral surface. Ueda discloses protrusions 232 formed on the substrate 1 that restrict the mounting position of the image forming lens 4 in the perpendicular direction of the optical axis (col. 28 lines 3-9, figure 55).

Ueda fails to teach wherein the leg section does not extend beyond a top surface of the image pick up element and the lens frame is in direct contact with the base board. However Takachi teaches a leg section under the lens section under the lens sections 10 and 13 (figure 3) that does not extend beyond a top surface of the image pick up element (4) and a barrel 6 that holds the optical mounting member 6 that hold the lens and is mounted on the printed circuit board 1 (Paragraph 5).

Therefore taking the combined teachings of Ueda and Takachi, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have a leg section that does not extend beyond a top surface of the image pick up element and the lens frame being in direct contact with the base board in order to have a compact device due to the smaller leg structure of the lens.

Ueda in view of Takachi fail to teach "an elastic member to press the optical member toward the image pickup element with an elastic force". However Toyoda et al. teaches an elastic member 110 (figure 8) for absorbing the play of the holder (Paragraph 0003). It would be inherent that the elastic member 110 would press the optical member toward the image pickup element with an elastic force.

Therefore taking the combined teachings of Ueda, Takachi and Toyoda, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have an elastic member taught by Toyoda in between the holder and optical member of Ueda in order to absorb the play of the holder.

[Claim 30]

Ueda teaches a lens frame (4) fixed to the base board (1, See figure 6). Toyoda teaches a cover member 105 attached to the lens frame 101 at the object side positioned from the lens section and to press the elastic member 110, wherein the cover member includes a part 102 capable of transmitting light (Paragraphs 0003 and 0004, figure 8).

[Claims 31, 35, 36]

Toyoda clearly discloses that the elastic member 110 is constructed as a separate body from the optical member 101 and the cover member 105 (figure 8). Ueda, Takachi and Toyoda fail to

teach an elastic member to be constructed in a single body with the cover member or an optical member. However Official Notice is taken of the fact that it is common to have an elastic member to be constructed in a single body with the cover member or an optical member in order to simplify the overall construction by having lesser number of parts. Therefore taking the combined teachings of Ueda, Takachi, Toyoda and Official Notice it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have an elastic member to be constructed in a single body with the cover member or an optical member in order to simplify the overall construction by having lesser number of parts.

[Claim 32]

Ueda, Takachi and Toyoda fail to teach whether the elastic member is a coil spring. However Official Notice is taken of the fact that it is notoriously common to have an elastic member made of coil spring in order to easily vary the force applied on the optical member by varying the diameter of the spring. Therefore taking the combined teachings of Ueda, Takachi, Toyoda and Official Notice it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have an elastic member made of coil spring in order to easily vary the force applied on the optical member by varying the diameter of the spring.

[Claims 33-34]

Ueda, Takachi and Toyoda fail to teach whether the elastic member is a sheet shaped member having a central portion with a light shielding capacity and to regulate the F-number of the lens section. However Official Notice is taken of the fact that it is notoriously common to have an elastic member made of a sheet shaped member like a rubber or plastic having a central portion with a light shielding capacity and to regulate the F-number of the lens section in order to reduce

the overall cost because the cost of manufacturing is very low. Therefore taking the combined teachings of Ueda, Toyoda and Official Notice it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have an elastic member made of a sheet shaped member having a central portion with a light shielding capacity and to regulate the F-number of the lens section because the cost of manufacturing is very low which reduces the overall cost of the apparatus.

5. Claims 29 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (US Patent # 6,122,009), Takachi (US Patent # 20030137595), Toyoda et al. (US Patent # 2001/0012073) and in further view of Basista et al. (US Patent # 4,451,124).

[Claims 29 and 38]

Ueda teaches an optical member (figure 6, lens portion 10) including a lens section (4), a leg section (11) to support the lens section (figure 8 clearly shows a leg portion 11 supporting the lens portion 4) and a contact surface shown as 11A to be brought in contact with the image pickup element on a condition that the image pickup element is positioned so as to face the lens section. Ueda, Takachi in view of Toyoda fail to teach that the lens section is brought in contact with the image pickup element with a weight of 5 g to 500 g. However Basista et al. teaches a lens system having a weight of 264.8 grams that can be brought in contact with image pick up element of Ueda in order to have good imaging performance.

Therefore taking the combined teachings of Ueda, Takachi, Toyoda and Basista it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a lens system having a weight of 5-500 grams that can be brought in contact with image pick up element in order to have good imaging performance.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

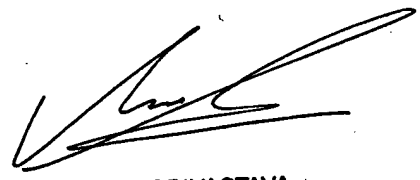
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571)-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YKA
January 20, 2007



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